IDW AF/1761

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2-22-05
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	09/865,074
Applicant(s)	:	Stephen Paul Zimmerman, et al.
Filed	:	May 24, 2001
Title	:	TORTILLA CHIPS WITH CONTROLLED SURFACE BUBBLING
TC/A.U.	:	1761
Examiner	:	Tran Lien, Thuy
Conf. No.	:	6704
Docket No.	:	8094M
Customer No.	:	27752

SECOND SUPPLEMENTAL APPEAL BRIEF

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 2233-1450

Dear Sir:

On January 21, 2005, the Examiner mailed a Notice of Non-Compliance with 37 CFR 1.192(c), in response to Appellants' submission of a Supplemental Brief on October 25, 2004. To maintain the appeal status of this case, this Second Supplemental Brief is submitted (in triplicate) in response to that Notice. As the due date of February 21, 2005 was a Federal holiday, this Second Supplemental Brief was not due until February 22, 2005. No fees are believed to be due.

Real Party in Interest

The real party in interest is the Procter & Gamble Company, assignee of Appellants' entire right, title, and interest in the invention at issue.

Related Appeals and Interferences

Appellants, Appellants' legal representative, and Appellants' assignee are aware of the following appealed applications which may be related to the Board's decision in the pending appeal:

U.S. Application Serial No. 09/851,040

U.S. Application Serial No. 09/850,894

As both appeals are still pending, no decision has been rendered by the Board in either application.

Status of Claims

Claims 21-33 are pending in the case and are the subject of this appeal.

Status of Amendments

No amendments have been filed subsequent to either of the Office Actions dated September 5, 2003 or May 5, 2004.

Summary of Claimed Subject Matter

Claim 21 is the only pending independent claim. No claims are written in means plus function or step plus function form. Accordingly, only Claim 21 is summarized.

The invention claimed concerns a snack chip made from a dough composition. Specifically, the dough composition comprises from about 50% to about 80% of a blend comprising *[p. 6, lines 18-19]*, (i) at least about 50% of a precooked starch-based material *[p. 6, line 20]*, and (ii) at least about 0.5% pregelatinized starch that is at least about 50% pregelatinized *[p. 6, lines 21-22]* having a peak viscosity of from about 1500 cp to about 4600 cp *[p. 18, line 27]*, a final viscosity of from about 300 cp to about 2700 cp *[p. 18, line 29]*, and a water absorption index of from about 12 to about 16 *[p. 18, line 31]*. The dough composition also comprises from about 30% to about 60% total water *[p. 6, line 23]*.

The resulting snack chip will typically possess a random, bubbly surface appearance and a crisp, dichotomous texture characteristic of a tortilla chip. *[p. 11, lines 17-18]* By careful control of the dough composition and specific raw material properties, it was surprisingly found that with the present invention, a tortilla style chip could be made without baking before frying. *[p. 11, lines 15-17]* In traditional tortilla making, however, the dough must be baked before it is fried to achieve the desired qualities. *[p. 17, lines 3-12]*

A key factor of the present invention is the required pregelatinized starch. The addition of the pregelatinized starch required by the present invention enables improved surface bubble development and texture expansion, and permits the omission of the baking step that is required by the traditional tortilla chip-making process. *[p. 17, lines 18-21; see p. 17, lines 3-12 for a description of the traditional baking process and its purpose.]*

Appellants are of the view that no particular reference to the drawings is necessary in order to assess the patentability of independent Claim 21 in view of the cited art. As such, no specific reference to the drawings is provided here.

Grounds of Rejection to be Reviewed on Appeal

I. Claims 21-23, 25, 27 and 33 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 4,623,548 to Willard.

II. Claims 24, 26 and 28-32 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 4,623,548 to Willard in view of U.S. Patent No. 4,994,295 to Holm.

Arguments

I. Claims 21-23, 25, 27 and 33 are patentable under 35 U.S.C. §103(a) over Willard (U.S. Patent No. 4,623,548).

Claims 21-23, 25, 27 and 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Willard (U.S. Patent No. 4,623,548--hereinafter, Willard '548). Independent claim 21, and claims 22-23, 25, 27 and 33 which are dependent therefrom, require, *inter alia*, pregelatinized starch that is at least about 50% pregelatinized, has a peak viscosity of from about 1500 cp to about 4600 cp, a final viscosity of from about 300 cp to about 2700 cp, and a water absorption index ("WAI") of from about 12 to about 16.

To establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); MPEP §2143.03. Thus, in the present case, the Examiner must show that the art teaches or suggests a snack chip made from a dough comprising pregelatinized starch that is **at least about 50% pregelatinized**, has a **peak viscosity of from about 1500 cp to about 4600 cp**, a **final viscosity of from about 300 cp to about 2700 cp**, and a **water absorption index ("WAI") of from about 12 to about 16**. This the Examiner has not done. The Examiner has not identified any sections of Willard that teach or suggest a pregelatinized starch having the required characteristics. Thus, the obviousness rejection is improper and should be reversed.

Obviousness can only be established by modifying reference teachings to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. MPEP §2143; *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988; *In re Jones*, 958 F.2d 347, 21 USPQ2d 1491 (Fed. Cir. 1992). In the present case, the Examiner has not identified any teaching, suggestion, or motivation, or knowledge in the art that would motivate one to modify the references to make a snack from a dough comprising pregelatinized starch having the recited properties. Thus, the obviousness rejection is improper and should be reversed.

As disclosed in the Specification, by careful control of the dough composition and specific raw material properties, it was surprisingly found that with the present invention, a tortilla style chip could be made without baking before frying. (Specification, p. 11, lines 15-17) A key factor is the addition of the recited pregelatinized starch. The addition of this pregelatinized starch, a key formulation change, enables improved surface bubble development and texture

expansion, and permits the omission of the baking step that is required by the traditional tortilla chip-making process. (Specification, p. 17, lines 18-21; *see* p. 17, lines 3-12 for a description of the traditional baking process and its purpose.) The resulting snack chip has a random, bubbly surface appearance and a crisp, dichotomous texture characteristic of a tortilla chip (Specification, p. 11, lines 17-18) without being subjected to baking before frying.

Willard '548 fails to recognize that % pregelatinization, viscosity, or WAI of pregelatinized starch are important, result-effective variables for making such a chip, and that the recited parameters enable the making of such a chip without baking before frying. Although Willard '548 fails to recognize the importance of using a pregelatinized starch having the recited % pregelatinization, viscosity, or WAI to make a bubbly chip that does not require a baking step before frying, the Examiner nonetheless concludes that the present invention would have been obvious in view of Willard '548.

In discussing % pregelatinization, the Examiner seems to conclude that because no range is stated in Willard, all ranges are thus disclosed by Willard '548. The Examiner states:

> While Willard does not disclose the percent of gelatinization of the pregelatinized starch, the degree of gelatinization of the pregelatinized starch can be from above 0-100% and **by not disclosing the percent gelatinization, the pregelatinized starch encompasses this range** and the claims include the range of 50-100%. (9/5/03 Office Action, p. 2, *emphasis added*)

The Examiner's assertions do not explain the fact that 1) Willard '548 does not recognize that different pregelatinized starches can have various degrees of gelatinization, and 2) Willard '548 does not recognize that the degree of gelatinization of the pregelatinized starch is an important variable for producing a bubbly snack that can be made without a baking step. Although Willard '548 completely misses these two important elements, the Examiner asserts that one of skill in the art would nonetheless somehow be motivated to formulate a snack chip comprising pregelatinized starch having the recited % gelatinization. Because the Examiner has provided no motivation to modify Willard '548 to arrive at the recited % pregelatinization, the rejection is improper and should be reversed.

Similarly, the Examiner states that Willard '548 does not disclose the viscosity of the pregelatinized starch. (9/5/03 Office Action, p. 2) The Examiner has concluded that starch viscosity is related to the degree of gelatinization, and by teaching pregelatinized starch:

> It would have been within the skill of one in the art to have a degree of gelatinization which would give a viscosity that gives the most optimum working

> parameters with respect to dough manipulation. Optimization is within the skill of one in the art. (9/5/03 Office Action, pp. 3-4)

This does not explain why, in view of the fact that Willard '548 does not recognize that viscosity of the pregelatinized starch is a result-effective variable for producing a bubbly snack that can be made without a baking step, one would nonetheless be motivated to formulate a snack chip comprising pregelatinized starch having the recited viscosity parameters. The Examiner states that "optimization is within the skill of one in the art," but does not set forth any evidence that one skilled in the art would recognize that pregelatinized starch viscosity is an important or result-effective variable for producing a bubbly snack without baking. Thus, there has been shown no motivation to modify Willard '548 to require any particular pregelatinized starch viscosity to arrive at the claimed invention. Accordingly, the rejection is improper and should be reversed.

As for WAI, the Examiner concludes that:

> Willard discloses the same starch and the degree of gelatinization encompasses the claimed range; thus it is obvious the water absorption index of the starch can fall within the range claimed. In any event, it would have been obvious to one skilled in the art to use a starch having an WAI which would give the most optimum working parameters and properties. (9/5/03 Office Action, p. 4, *emphasis added*)

This does not explain why, in view of the fact that Willard '548 does not recognize that WAI of the pregelatinized starch is a result-effective variable for producing a bubbly snack that can be made without a baking step, one would nonetheless be motivated to formulate a snack chip comprising pregelatinized starch having the recited WAI parameter. Furthermore, the Examiner provides no basis for concluding that Willard '548 discloses the "same" starch, since Willard '548 does not disclose the recited pregelatinized starch of the present invention.

The Examiner also states that it would have been obvious nonetheless to use a starch with the recited WAI to "give the most optimum working parameters and properties." Because the Examiner has not set forth any evidence that one skilled in the art would recognize that pregelatinized starch WAI is a result-effective variable for producing a bubbly snack without baking, this conclusion is improper. Thus, there has been shown no motivation to modify Willard '548 to require any particular pregelatinized starch WAI to arrive at the claimed invention. Accordingly, the rejection is improper and should be reversed.

The references do not teach or suggest the claimed invention, and there is no suggestion for modifying reference teachings to produce the claimed invention. Accordingly, the Examiner's rejection is improper and should be reversed.

II. Claims 24, 26 and 28-32 are patentable under 35 U.S.C. § 103(a) over Willard (U.S. Patent No. 4,623,548) in view of Holm (U.S. Patent No. 4,994,295).

Claims 24, 26 and 28-32 are patentable under § 103(a) over Willard '548 in view of Holm (U.S. Patent No. 4,994,295--hereinafter, Holm '295). Claims 24, 26 and 28-32 depend from independent Claim 21.

For all of the reasons noted above for the Examiner's rejection of Claims 21-23, 25, 27 and 33 under 35 U.S.C. § 103(a) over Willard '548, Appellants respectfully assert that the Willard/Holm combination fails to teach, suggest or make obvious Appellants' Claims 24, 26 and 28-32.

Furthermore, Appellants further assert that the Willard/Holm combination fails to teach or suggest Appellants' claims herein, because the combination, through Holm '295, teaches the production of controlled surface bubbling fabricated snack products by use of Holm's three-step process only. This process involves formation of dough pieces or performs, drying of dough performs, and frying of dough performs. (Holm '295, Column 5, lines 6-9; Abstract) The purpose of drying is to produce a relatively dry chip surface with a relatively moist inner portion. (Holm '295, Column 7, lines 61-65) Drying can include methods such as heat (e.g., baking) and/or high volume air movement. (Holm '295, Columns 8-9) In discussing the selection of process conditions, Holm '295 notes the following "well-known relationship"; that "[i]ncreased surface drying usually results in increased (and heretofore undesired) bubbling." (Holm '295, Column 9, lines 51-62)

While the Willard/Holm combination requires additional processing, Appellants' invention requires no extra process step (i.e., drying and/or baking). More specifically, the chip formulation of the current invention does not require "increased surface drying," as Holm '295 suggests would be necessary, to result in a chip with the desired level of surface bubbling. Rather, the key variable in the present invention is the starch composition, a formulation add. The addition of the pregelled starch of the current invention enables improved surface bubble development and texture expansion, and also permits the omission of the baking step (or any drying step) that is required by the traditional tortilla chip-making process. (Specification, p. 17, lines 18-21; *see* p. 17, lines 3-12 for a description of the traditional baking process and its purpose)

Moreover, because neither reference in the Willard/Holm combination recognizes that the % pregelatinization, viscosity values, or WAI parameters of pregelatinized starch are result-effective for formulating a bubbly snack that can be made without baking by frying, one would not reasonably expect that the claimed invention would result from modifying the references. Claims may be rejected only when there is a reasonable expectation of success that the claimed invention will result. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986). Thus, in this case, the rejection of the claims is improper and the rejection should be reversed.

There is nothing to indicate that the cited references contemplated making a bubbly snack that does not require baking before frying by formulating a snack comprising a pregelatinized starch having any particular % pregelatinization, viscosities, or WAI values, much less the values recited. In fact, Appellants contend that the Willard/Holm combination teaches away from the present invention, because Holm '295 teaches bubble control by *process parameters* (Holm '295, Column 1, lines 14-15), whereas the current invention relies upon *composition parameters* (pregelatinized starch properties). Thus, based on either Willard '548 or Holm '295, one of skill in the art would not be motivated to make a bubbly chip by modifying the formulation of the Willard/Holm combination, but rather by modifying process parameters of that combination. Furthermore, Holm '295 teaches that increased surface drying, a process step, usually results in increased bubbling (Holm '295, Column 9, lines 61-62), whereas the present invention does not require drying (e.g. baking) before frying. Thus, based upon the teaching of Holm '295 (as combined with Willard '548), one of skill in the art would not be motivated to make a bubbly chip by modifying the formulation, but rather by adding another process step for drying the surface of the dough.

Conclusion

In view of all of the above, it is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness and that the present invention is patentable over the cited references. Accordingly, reversal of the Examiner's rejections is respectfully requested.

Respectfully submitted,
THE PROCTER & GAMBLE COMPANY

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Date: February 22, 2005
Customer No. 27752

Claims Appendix

21. A snack chip, wherein said snack chip is made from a dough composition comprising:
    a. from about 50% to about 80% of a blend comprising:
        i. at least about 50% of a precooked starch-based material;
        ii. at least about 0.5% pregelatinized starch, wherein said pregelatinized starch is at least about 50% pregelatinized, and further wherein said pregelatinized starch has a peak viscosity of from about 1500 cp to about 4600 cp; a final viscosity of from about 300 cp to about 2700 cp; and a water absorption index of from about 12 to about 16; and
    b. from about 30% to about 60% total water.

22. The snack chip of Claim 21, wherein said blend comprises from about 40% to about 95% corn masa flour.

23. The snack chip of Claim 22, wherein said snack chip is uniformly shaped.

24. The snack chip of Claim 23, wherein said snack chip has raised surface features, wherein said raised surface features comprise:
    a. from about 12% to about 40% large surface features;
    b. from about 20% to about 40% medium surface features; and
    c. from about 25% to about 60% small surface features.

25. The snack chip of Claim 24, wherein said snack chip has:
    a. a glass transition temperature of from about 165 to about 275°F at a snack chip relative humidity of from about 2 to about 4%;
    b. a glass transition temperature of from about 180 to about 275°F at a snack chip relative humidity of from about 6 to about 9%; and
    c. a glass transition temperature of from about 150 to about 235°F at a snack chip relative humidity of from about 20 to about 30%.

26. The snack chip of Claim 25, wherein:
    a. the average thickness of said snack chip is from about 1 mm to about 3 mm;
    b. the average thickness of raised surface features is from about 2.3 mm to about 3.2 mm;
    c. the maximum thickness of the chip is less than about 5.5 mm; and
    d. the coefficient of variation of the chip thickness is greater than about 15%.

27. The snack chip of Claim 26, wherein the coefficient of variation of said snack chip thickness is from about 15% to about 40%.

28. The snack chip of Claim 27, wherein said snack chip comprises from about 5 to about 35 surface features per gram of snack chip.

29. The snack chip of Claim 28, wherein said snack chip has a surface roughness of from about 1.5 to about 7 mm.

30. The snack chip of Claim 29, wherein said snack chip has a bubble wall thickness of greater than about 0.1 mm.

31. The snack chip of Claim 30, wherein said snack chip has a total volume occupied by solids greater than about 45%.

32. The snack piece of Claim 31, having interior voids with a length of from about 1 to about 12 mm, and a height of from about 0.2 to about 2.5 mm.

33. The snack chip of Claim 32, wherein said snack chip has a maximum thickness of from about 3 mm to about 5.5 mm.

Evidence Appendix

No evidence has been submitted pursuant to any of 37 CFR §§ 1.130, 1.131, or 1.132.

The following references are relied on by the Examiner in setting forth the grounds of rejection to be reviewed:

U.S. Patent No. 4,623,548 to Willard.
U.S. Patent No. 4,994,295 to Holm.

Related Proceedings Appendix

The Board has rendered no decision in either of the applications listed in the "Related Appeals and Interferences" section of the Brief.